

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-002067**Date Inspected:** 28-Mar-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1830**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 730**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower and OBG Fabrication**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Fabrication:

CWI Inspector: Chen Xi

Bay 1

The QA Inspector observed ZPMC welder Mr. Xiao Dianbin stencil 59440 is using welding procedure specification WPS-B-T-2133 to make flux cored fillet welds DP328-001-118 on OBG deck stiffener plate to the inside of a closed rib. The QA Inspector observed a welding current of approximately 220 amps and 25.0 volts. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Tang Ke stencil 62305 is using welding procedure specification WPS-B-T-2342-U2 (U-rib) to make flux cored tack welds on OBG deck plate closed rib weld DP056-001-001 and DP056-001-002. The QA Inspector observed a welding current of approximately 350 amps and 30.0 volts. Items observed by the QA Inspector appear to comply with project specifications.

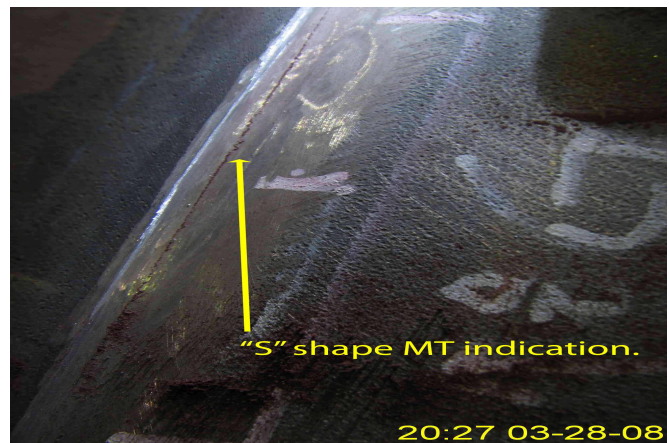
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The QA Inspector performed random visual inspections of deck plate DP407-001 closed rib welds # 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10. The QA Inspector used a yellow marker to identify locations on these welds that have various degrees of weld insufficient fill, weld overlap, and other similar weld conditions. The results of these inspections were documented on forms titled: "Caltrans QA Visual Weld Inspection Report for the OBG Deck Panels". These completed forms will be submitted to engineering for review.

Bay 7

The QA Inspector performed random visual and magnetic particle inspections of critical weld repair #53 grind areas located in floor beam welds FB025-02-106 (one location) and FB025-03-114 (two locations). ZPMC QC Inspector Mr. Huang Wen Ping had previously accepted the magnetic particle inspections of these grind areas. The QA Inspector observed ZPMC has used a grinder to gouge approximately 5 mm into the base material in two locations on weld 114. The QA Inspector's MT inspection revealed a mechanical opening between the two pieces of the steel in the bottom of the grind gouges. One of these magnetic particle indications was shaped in a curved "S" shape instead of having a straight line where the mechanical opening was located. The QA Inspector asked Mr. Ping if this "S" shape is acceptable. Mr. Ping said the MT indication was the result of the two steel surfaces not being even, but he would have additional grinding performed in this area again. Following additional grinding the QA Inspector observed the MT indication with the "S" shape has been removed, resulting in a straight line where the two steel pieces are joined. Other areas that were inspected by the QA Inspector appear to comply with project specifications. See the photographs below for additional information.



Summary of Conversations:

See above for summary of conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Patrick Lowey (858) 344-2712, who represents the Office of Structural Materials for your project.

Inspected By: Dawson, Paul

Quality Assurance Inspector

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Reviewed By: Hager,Craig

QA Reviewer